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NEWS

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Navy MiSSILE Program Takes Flight

Navy flight students are about to get a useful addition to their flight kit beginning this month. The MiSSILE (Micro Simulator Systems for Immersive Learning Environments) Project CD ROM entitled, the "Naval Aviation Micro-Simulator Training Aid" became “standard issue” to student naval aviators in Corpus Christi, TX, on January 24. The program has a learning “shell” for an off-the-shelf software flight simulator that allows students to configure their PCs to the Navy’s flight training environment. Students taking advantage of the software can expect to increase their chance of completing flight training, receive higher grades and experience fewer delays, all at a low cost to the Navy.

The program centers on self-study by the student from home and at computer-based learning centers on base. These centers are already in place at Naval Air Station, Corpus Christi, Texas, and more are under development for squadrons at two Florida bases, NAS Pensacola and NAS Whiting Field in Milton. The program is meant to be a voluntary training aide and not a required part of the syllabus. The PC-based flight simulation software will not replace actual or simulated flights, instead, it is meant to build a foundation of procedural knowledge and aircrew coordination. Flight Training Instruction (FTI) and course rules, used for teaching the student flight procedures, are embedded in the shell. This allows students to spend their flight time in the aircraft developing practical skills as opposed to applying the procedures for the first time.

“The key premise is improving learning process efficiencies,” said Scott Dunlap, head of Assessment Project Office for the Chief of Naval Education and Training. “If we can help a naval aviation

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student learn quicker, we can get him through the pipeline quicker, which saves critical assets."

The software is currently configured for the primary trainer, the T-34C, and intermediate training aircraft, the T-44. Programs are being considered for development for the Joint Primary Aircraft Training System (JPATS), the T-6A Texan II, that is scheduled to take over as the primary flight aircraft.

A study conducted at the learning center in Corpus Christi showed that students who used the software scored higher on their flights, and had fewer below average and unsatisfactory scores. The program also allows students who are experiencing difficulties to focus on problem areas by using the PC-based simulator. Statistical and anecdotal evidence suggests that these students performed better, in the problem areas, especially in the aircraft. This should reduce costs to the Navy for extra and repeat flights, and lower the attrition rate.

According to Dunlap, "Some of our early estimates suggest that we could possibly retain anywhere between fourteen and twenty-eight more pilots per year this way, because of the reduction in below-average performances." Students who use the computer simulator during times when they are unable to fly, due to weather or other outside factors, report higher retention of fundamental skills, which has the potential to result in fewer warm-up flights and faster syllabus completion rates.

The MiSSILE project began as a study by the Assessment Division of the Chief of Naval Education and Training to determine how off-the-shelf (OTS) software could be used as a training tool for various warfare communities.

The flight simulation program got its start when one enterprising ensign at Aviation Preflight Indoctrination in Pensacola began modifying panels and scenery for a commercial PC-based flight simulator on his own. Ensign Herb Lacy, who has since been promoted to Lt.j.g., used commercially available add-on software to model the aircraft panels and scenery after NAS Corpus Christi and the surrounding area landmarks where he would be flying during primary training.

The Assessment Division at CNET used Lacy's aircraft panels and scenery as the basis for the learning shell that will be issued to students.

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The use of off-the-shelf software greatly reduces software development costs by taking advantage of software that has been developed for sale in the commercial marketplace.

The Navy is also looking at implementing other OTS programs for training different warfare communities. These programs are used to develop high-level strategy and tactical decision making in junior officers. The PC-based simulators are also planned for use by Navy ROTC units to motivate and expose the cadets to the Navy's different warfare communities.

The MiSSILE program achieves the goal of providing an efficient and low cost method of training. The program increases the proficiency of students while contributing to decreasing the time to train and lowering the attrition rate. The program has applications for other warfare communities and will serve as an expansion to the learning tool kit to provide well-trained junior officers to lead the Navy into the future.

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